Claims

1. A molding material, comprising at least the following components [A], [B] and [C], with the component [C] arranged to contact a composite comprising the components [A] and [B].

[A] A continuous reinforcing fiber bundle

[B] A thermoplastic polymer or oligomer with a weight average molecular weight of 200 to 50,000 and a melt viscosity lower than that of the component [C]

[C] A thermoplastic resin with a weight average molecular weight of 10,000 or more.

2. A molding material, according to claim 1, wherein the molding material is cut at a length of 1 to 50 mm.

3. A molding material, according to claim 1, wherein the component [C] is arranged to cover the surrounding of the composite.

4. A molding material, according to claim 3, wherein the molding material is cut at a length of 1 to 50 mm.

5. A molding material, according to claim 1, wherein the component [C] is arranged with the composite in layers.

6. A molding material, according to claim 5, wherein the molding material is cut at a length of 1 to 50 mm.

7. A molding material, according to any one of claims 1 through 6, wherein the melt viscosity of the component [B] is 100 poises or less, and the melt viscosity of the component [C] is 500 poises or more.

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8. A molding material, according to any one of claims 1 through 6, wherein the absolute value of the difference between the solubility parameter $\delta 1$ of the component [B] and the solubility parameter $\delta 2$ of the component [C] is smaller than 3.5.

9. A molding material, according to any one of claims 1 through 6, wherein when the content of the component [B] in the molding material is 10wt%, the Izod impact value of the molded product obtained by molding the molding material accounts for 60% or more of the Izod impact value of the molded product obtained by excluding the component [B] from the components of the molding material.

10. A molding material, according to any one of claims 1 through 6, wherein the volumetric content of the component [A] in the composite is 40 to 95%.

11. A molding material, according to any one of claims 1 through 6, wherein the void volume of the composite is 0 to 40%.

12. A molding material, according to any one of claims 1 through 6, wherein the component [C] is a polyamide, polyolefin, polycarbonate, or any of the mixtures and copolymers comprising two or more of them.

13. A molding material, according to any one of claims 1 through 6, wherein the thermoplastic polymer or oligomer as the component [B] is an oligomer obtained by adding phenol or

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a phenol derivative (precursor a) and an aliphatic hydrocarbon
with two double bonds (precursor b).

14. A molding material, according to claim 13, wherein the
precursor b is an aliphatic hydrocarbon with 6 to 15 carbon
atoms and two double bonds.

15. A molding material, according to claim 14, wherein the
precursor b has one or more cyclic structure.

16. A molding material, according to claim 15, wherein the
precursor b is dicyclopentadiene or monocyclic monoterpene
represented by molecular formula $C_{10}H_{16}$.

17. A molding material, according to claim 13, wherein a
composition with one molecule of the precursor b added to two
molecules of the precursor a accounts for 40 wt% or more in
the component [B].

18. A molding material, according to claim 13, wherein the
weight average molecular weight of the component [B] is 200 to
1000.

19. A molding material, according to any one of claims 1
through 6, wherein the component [C] is nylon 6, nylon 66 or
nylon 6 nylon 66 copolymer.

20. A molding material, according to any one of claims 1
through 6, wherein the thermoplastic polymer or oligomer as
the component [B] is an oligomer obtained by adding phenol or
a phenol derivative (precursor a) and an aliphatic hydrocarbon
with two double bonds (precursor b) and the component [C] is

nylon 6, nylon 66 or nylon 6 nylon 66 copolymer.

21. A molding material, according to claim 20, wherein the precursor b is an aliphatic hydrocarbon with 6 to 15 carbon atoms and with two double bonds.

22. A molding material, according to claim 21, wherein the precursor b has one or more cyclic structure.

23. A molding material, according to claim 22, wherein the precursor b is dicyclopentadiene or monocyclic monoterpene represented by molecular formula $C_{10}H_{16}$.

24. A molding material, according to claim 20, wherein a composition with one molecule of the precursor b added to two molecules of the precursor a accounts for 40 wt% or more in the component [B].

25. A molding material, according to claim 20, wherein the weight average molecular weight of the component [B] is 200 to 1000.

26. A molding material, according to any one of claims 1 through 6, wherein the reinforcing fibers of the component [A] are carbon fibers.

27. A molding material, according to any one of claims 1 through 6, wherein the reinforcing fibers of the component [A] are carbon fibers of 0.05 to 0.4 in the surface chemical function (O/C) as the ratio of the number of oxygen (O) atoms to that of carbon (C) atoms of the fiber surfaces measured by the X-ray photoelectron spectroscopy.

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28. A process for producing the molding material stated in any one of claims 1, 3 and 5, comprising the steps of impregnating the component [A] with the component [B] heated and molten to have a viscosity of 100 poises or less, to form a composite; arranging the component [C] molten to have a viscosity of 500 poises of more, to contact the composite; and cooling the entire material to room temperature.

29. A process for producing the molding material stated in any one of claims 2, 4 or 6, comprising the steps of impregnating the component [A] with the component [b] heated and molten to have a viscosity of 100 poises or less, to form a composite; arranging the component [C] molten to have a viscosity of 500 poises or more, to contact the composite; cooling the entire material to room temperature; and cutting at a length of 1 to 50 mm.

30. A polyamide based resin composition, comprising at least the following components [D] and [E], with the component [D] contained by 0.5 to 40 parts by weight against 100 parts by weight in total of the resin composition.

[D] An oligomer obtained by condensation of phenol or a phenol derivative (precursor a) and an aliphatic hydrocarbon with two double bonds (precursor b)

[E] A polyamide resin

31. A polyamide based resin composition, according to claim 30, wherein the precursor b is an aliphatic hydrocarbon with 6

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to 15 carbon atoms and with two double bonds.

32. A molding material, according to claim 31, wherein the precursor b has one or more cyclic structure.

33. A molding material, according to claim 32, wherein the precursor b is dicyclopentadiene or monocyclic monoterpene represented by molecular formula $C_{10}H_{16}$.

34. A molding material, according to any one of claims 30 through 33, wherein a composition with one molecule of the precursor b added to two molecules of the precursor a accounts for 40 wt% or more in the component [D].

35. A molding material, according to any one of claims 30 through 33, wherein the weight average molecular weight of the component [D] is 200 to 1000.

36. A molding material, according to any one of claims 30 through 33, wherein the component [E] is nylon 6, nylon 66 or nylon 6 nylon 66 copolymer.

37. A fiber reinforced polyamide based resin composition, comprising 100 parts by weight of the polyamide based resin composition stated in any one of claims 30 through 33 and 5 to 200 parts by weight of reinforcing fibers.

38. A fiber reinforced polyamide based resin composition, according to claim 37, wherein the reinforcing fibers are carbon fibers.

39. A fiber reinforced polyamide based resin composition, according to claim 38, wherein the reinforcing fibers are

carbon fibers of 0.05 to 0.4 in the oxygen content O/C on the fiber surfaces measured by the X-ray photoelectron spectroscopy.

40. A molded product, obtained by molding the molding material stated in any one of claims 1 through 6

41. A molded product, obtained by molding the polyamide based resin composition stated in any one of claims 30 through 33.

42. Pellets to be injection-molded, comprising the molding material stated in any one of claims 2, 4 and 6.

43. A molded product, obtained by injection-molding the pellets to be injection-molded stated in claim 42.

44. Pellets to be injection-molded, comprising the polyamide based resin composition stated in any one of claims 30 through 33.

45. A molded product, obtained by injection-molding the pellets to be injection-molded stated in claim 44.